

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
16 December 2004 (16.12.2004)

PCT

(10) International Publication Number  
**WO 2004/108296 A1**

(51) International Patent Classification<sup>7</sup>: **B04C 3/04, 9/00**

(21) International Application Number:  
PCT/IE2004/000081

(22) International Filing Date: 8 June 2004 (08.06.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
S2003/0427 5 June 2003 (05.06.2003) IE

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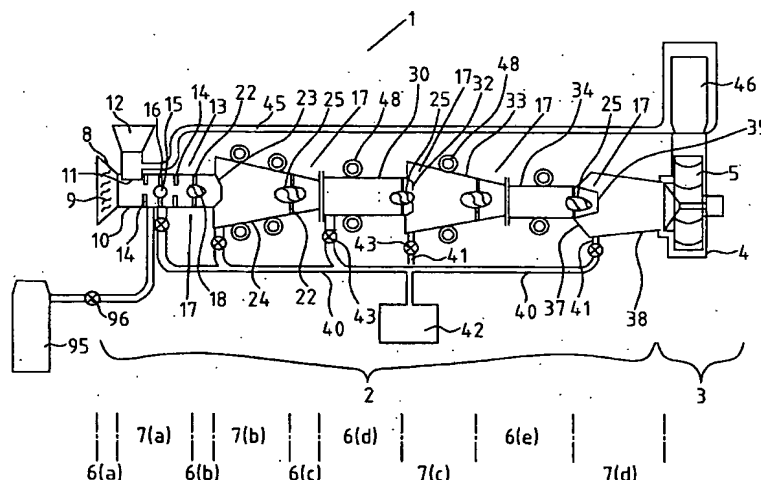
(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:  
— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **IMPROVED DEWATERING APPARATUS AND METHOD FOR WATER TREATMENT AND ENERGY GENERATION**



(57) Abstract: The invention provides a pneumatic dewatering apparatus (1) for wet product. The apparatus (1) comprises essentially a cyclone chamber (2) connected to a centrifugal fan (3). Various vortex flow forming stations (6), each followed by a vortex shedding station (7), are mounted within the cyclone chamber (2). Tight centripetal vortices are formed and are then shed such that water is delivered out the cyclone chamber (2) into a sump (42). As part of the process, ionisation of the fluid occurs as it progresses through the cyclone chamber (2). Additional ionisation means, namely, a plasma generating device including a hollow toroidal unit (48), is provided. Other ionisation means include the use of magnets, associated anodes and cathodes and ozone generators.